

Claims

What is claimed is:

1. A swing cushion system of a work machine, comprising:
a directional flow device having a directional control member;
a control device coupled to said directional flow device; and
wherein said control device outputs a signal to said fluid flow-control apparatus to shift said directional control member to dissipate energy in the fluid.
2. The swing cushion system set forth in claim 1, wherein said signal is a sinusoid signal.
3. The swing cushion system set forth in claim 2, wherein said sinusoid signal has at least one variable pre-determined parameter.
4. The swing cushion system set forth in claim 3, wherein said at least one pre-determined parameter is one of a:
a time parameter;
a magnitude parameter; and
a frequency parameter.
5. The swing cushion system set forth in claim 1, wherein said control device is a programmable electronic control module.
6. The swing cushion system set forth in claim 5, wherein said programmable electronic control module includes an algorithm for calculating said pre-determined parameters of said signal.

7. A method for dissipating energy in a swing cushion system of a work machine, the system including a directional flow device having a directional control member, and a control device coupled to said directional flow device, comprising the steps of:

- producing a stop swing command;
- generating a signal indicative of variable pre-determined parameters; and
- dissipating energy in said swing cushion system using said signal.

8. The method set forth in claim 7, including the step of sending said signal to said directional flow device.

9. The method set forth in claim 8, including the step of oscillating said directional control member to dissipate energy in said swing cushion system in response to said signal.

10. The method set forth in claim 7, wherein generating said signal includes the steps of:

- providing a variable pre-determined parameter indicative of the position of the directional control member;
- providing a variable pre-determined parameter indicative of a change rate of said swing command; and
- producing a sinusoid signal indicative of said change rate.